In the Claims:

Please amend the following claim:

1. (Amended) An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

an oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber;

a rod having a first end and a second end, the first end operably connected with the diaphragm, and the rod extending generally orthogonal to the diaphragm;

a crankshaft operably connected with the second end of the rod and extending generally orthogonal to the rod; and

a first motor operably connected with the crankshaft;

a continuous air flow generator operably connected with the oscillatory air flow generator;

a first feedback and control means operably connected with the oscillatory air flow generator for maintaining [the] a frequency of the oscillatory air flow generator at a predetermined value; and

a second feedback and control means operably connected with the continuous air flow generator for continuously varying [the] an output pressure of the continuous air flow generator in order to maintain [the] a peak pressure generated by the [positive] continuous air flow generator at a predetermined value.

Please add the following new claims:

13. An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

an oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber;

a rod having a first end and a second end, the first end operably connected with the diaphragm, and the rod extending generally orthogonal to the diaphragm;

a crankshaft operably connected with the second end of the rod and extending generally orthogonal to the rod; and

a first motor operably connected with the crankshaft;

a positive air flow generator operably connected with the oscillatory air flow generator;

a first feedback and control means operably connected with the oscillatory air flow generator for maintaining a frequency of the oscillatory air flow generator at a predetermined value; and

a second feedback and control means operably connected with the positive air flow generator for continuously varying a output pressure of the positive air flow generator in order to maintain a peak pressure generated by the positive air flow generator at a predetermined value.

14. An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

an oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber;

a rod having a first end and a second end, the first end operably connected with the diaphragm, and the rod extending generally orthogonal to the diaphragm;

a crankshaft operably connected with the second end of the rod and extending generally orthogonal to the rod; and

a first motor operably connected with the crankshaft;

a positive air flow generator operably connected with the oscillatory air flow generator;

a first feedback and control means operably connected with the oscillatory air flow generator for maintaining a frequency of the oscillatory air flow generator at a predetermined value; and

a second feedback and control means operably connected with the positive air flow generator for dynamically adjusting an output pressure of the positive air flow generator in order to maintain a positive pressure generated by the positive air flow generator at a predetermined value.

15. The apparatus of claim 14 wherein the positive pressure is constant.

16. The apparatus of claim 14 wherein the positive pressure is consistent.

17. An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

an oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber;

a rod having a first end and a second end, the first end operably connected with the diaphragm, and the rod extending generally orthogonal to the diaphragm;

a crankshaft operably connected with the second end of the rod and extending generally orthogonal to the rod; and

a first motor operably connected with the crankshaft;

a positive air flow generator operably connected with the oscillatory air flow generator;

a first feedback and control means operably connected with the oscillatory air flow generator for maintaining a frequency of the oscillatory air flow generator at a predetermined value; and

a second feedback and control means operably connected with the positive air flow generator for maintaining a positive pressure at a predetermined value.

18. The apparatus of claim 17 wherein the positive pressure is maintained at a constant pressure.

19. The apparatus of claim 17 wherein the positive pressure is maintained at a consistent pressure.

20. An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

an oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber;

a rod having a first end and a second end, the first end operably connected with the diaphragm, and the rod extending generally orthogonal to the diaphragm;

a crankshaft operably connected with the second end of the rod and extending generally orthogonal to the rod; and

a first motor operably connected with the crankshaft;

a positive air flow generator operably connected with the oscillatory air flow generator;

a frequency-compensation feedback system operably connected with the oscillatory air flow generator, wherein the frequency-compensation feedback system maintains a frequency of the oscillatory air flow generator at a predetermined value; and

a pressure-compensation feedback system operably connected with the positive air flow generator, wherein the pressure-compensation feedback system maintains a positive pressure at a predetermined value.

21. The apparatus of claim 20 wherein the positive pressure is maintained at a constant pressure.

22. The apparatus of claim 20 wherein the positive pressure is maintained at a consistent pressure.

23. The apparatus of claim 20 wherein the pressure-compensation feedback system dynamically adjusts an output pressure of the positive air flow generator to maintain the positive pressure at the predetermined value.

24. The apparatus of claim 23 wherein the pressure-compensation feedback system maintains a peak pressure.

25. The apparatus of claim 20 wherein the pressure-compensation feedback system maintains the positive pressure by flowing air from the apparatus.

26. The apparatus of claim 20 wherein the pressure-compensation feedback system dynamically adjusts the positive air flow generator to maintain the positive pressure at the predetermined value.

27. The apparatus of claim 26 wherein the pressure-compensation feedback system dynamically adjusts a speed of the positive air flow generator.

28. The apparatus of claim 26 wherein the pressure-compensation feedback system dynamically adjusts an output pressure of the positive airflow generator.

29. The apparatus of claim 26 wherein the pressure-compensation feedback system dynamically adjusts an output flow of the positive air flow generator.

30. The apparatus of claim 26 wherein the pressure-compensation feedback system dynamically adjusts the positive air flow generator by flowing air from the apparatus.

31. The apparatus of claim 20 wherein the pressure-compensation feedback system continuously varies an output pressure of the positive air flow generator in order to maintain a peak pressure generated by the positive air flow generator at a predetermined value.

32. An apparatus for generating oscillatory air pulses in a bladder positioned about a person comprising:

an oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

a positive air flow generator operably connected with the oscillatory air flow generator;

a frequency-compensation feedback system operably connected with the oscillatory air flow generator, wherein the frequency-compensation feedback system maintains a frequency of the oscillatory air flow generator at a predetermined value; and

a pressure-compensation feedback system operably connected with the positive air flow generator, wherein the pressure-compensation feedback system maintains a positive pressure at a predetermined value.

33. The apparatus of claim 32 wherein the pressure-compensation feedback system dynamically adjusts the positive air flow generator to maintain a positive pressure generated by the positive air flow generator at a predetermined value.

34. The apparatus of claim 32 wherein the first motor has a shaft mechanically connected to the reciprocating diaphragm.

35. The apparatus of claim 34 wherein rotation of the shaft reciprocates the reciprocating diaphragm in a cycle and each cycle of the reciprocating diaphragm displaces a fixed volume of air.

36. The apparatus of claim 35 wherein the reciprocating diaphragm causes pressure changes inside the air chamber in comparison to ambient pressure.

37. The apparatus of claim 36 wherein the pressure changes are small in comparison to ambient pressure.

38. The apparatus of claim 36 wherein the pressure changes are less than or equal to about 1 psi.

39. The apparatus of claim 36 wherein a majority of the fixed volume of air is moved into and out of the bladder during each cycle.

40. The apparatus of claim 32 wherein the reciprocating diaphragm comprises a seal extending from the outer periphery of the reciprocating diaphragm to a wall of the air chamber.

41. The apparatus of claim 32 wherein the oscillatory generator further comprises:

a shaft operably connected to the first motor; and

a connecting member operably connecting the shaft to the reciprocating diaphragm.

42. The apparatus of claim 41 wherein the shaft comprises a crankshaft and the connecting member comprises a rod.

43. The apparatus of claim 41 wherein the reciprocating diaphragm comprises a seal generally orthogonal to the connecting member.

44. An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

a generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber;

a first motor operably connected with the reciprocating diaphragm; and

wherein the generator provides a positive pressure and an oscillatory pressure;

a frequency-compensation feedback system operably connected with the generator, wherein the frequency-compensation feedback system maintains an oscillation frequency at a predetermined value; and

a pressure-compensation feedback system operably connected with the generator, wherein the pressure-compensation feedback system maintains the positive pressure at a predetermined value.

45. An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

a generator comprising an oscillatory air flow generator and a positive air flow generator, the generator providing a positive pressure and an oscillatory pressure;

the oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

the positive air flow generator operably connected with the oscillatory air flow generator;

a frequency-compensation feedback system operably connected with the generator, wherein the frequency-compensation feedback system maintains an oscillation frequency at a predetermined value; and

a pressure-compensation feedback system operably connected with the generator, wherein the pressure-compensation feedback system maintains the positive pressure at a predetermined value.

46. The apparatus of claim 45 wherein the apparatus loosens and assists expulsion of mucus from lungs of the person.

47. The apparatus of claim 45 wherein the oscillation frequency is independent and higher than a breathing rate of the person.

48. The apparatus of claim 45 wherein the oscillation frequency is between about 5 Hz to about 25 Hz.

49. The apparatus of claim 45 wherein the positive pressure is between about 0.2 psi to about 0.6 psi.

50. The apparatus of claim 45 wherein the positive pressure is a user selected pressure setting.

51. The apparatus of claim 45 wherein the oscillation frequency is a user selected frequency setting.

52. The apparatus of claim 45 wherein the positive pressure is a constant pressure.

53. The apparatus of claim 45 wherein the positive pressure is a consistent pressure.

54. The apparatus of claim 45 wherein the pressure-compensation feedback system maintains a pressure in the bladder above ambient pressure.

55. The apparatus of claim 45 wherein the pressure-compensation feedback system adjusts the positive pressure to allow repeated inhalation and expiration of the person.

56. The apparatus of claim 45 wherein the pressure-compensation feedback system maintains the positive pressure irrespective of repeated inhalation and expiration of the person.

57. The apparatus of claim 45 wherein the pressure-compensation feedback system varies the positive pressure to maintain the positive pressure at the predetermined value.

58. The apparatus of claim 45 wherein the pressure-compensation feedback system detects a peak pressure.

59. The apparatus of claim 45 wherein the pressure-compensation feedback system maintains the positive pressure throughout a range of oscillation frequencies.

60. The apparatus of claim 45 wherein the pressure-compensation feedback system maintains the positive pressure at the predetermined value independent of variations of the bladder.

61. The apparatus of claim 45 wherein the pressure-compensation feedback system detects the positive pressure, compares the positive pressure to a predetermined value, and adjusts the positive pressure to the predetermined value.

62. The apparatus of claim 61 wherein the pressure-compensation feedback system is an electrical feedback system.

63. The apparatus of claim 61 wherein the pressure-compensation feedback system detects the positive pressure using a pressure transducer.

64. The apparatus of claim 61 wherein the predetermined value is a user selected value.

65. The apparatus of claim 61 wherein the pressure-compensation feedback system adjusts the positive pressure by changing an output of the generator.

66. The apparatus of claim 65 wherein a pressure of the output of the generator is reduced.

67. The apparatus of claim 65 wherein a flow of the output of the generator is reduced.

68. The apparatus of claim 67 wherein the flow of the output is reduced by flowing air out of the generator.

69. The apparatus of claim 65 wherein the output of the generator is independent of the oscillation frequency.

70. The apparatus of claim 45 wherein the frequency-compensation feedback system detects the oscillation frequency, compares the oscillation frequency to a predetermined value, and adjusts the oscillation frequency to the predetermined value.

71. The apparatus of claim 70 wherein the frequency-compensation feedback system detects the oscillation frequency by detecting the oscillatory pressure.

72. The apparatus of claim 70 wherein the frequency-compensation feedback system detects the oscillation frequency by detecting the motor speed.

73. The apparatus of claim 70 wherein the frequency-compensation feedback system comprises a pressure transducer.

74. The apparatus of claim of claim 73 wherein the pressure transducer converts air pressure into an oscillating electrical signal.

75. The apparatus of claim 73 wherein the frequency-compensation feedback system provides a voltage level proportional to the oscillation frequency.

76. The apparatus of claim 70 wherein the frequency-compensation feedback system compares the oscillation frequency to a predetermined value by comparing voltages.

77. The apparatus of claim 70 wherein the frequency-compensation feedback system adjusts the oscillation frequency by changing the motor speed.

78. An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

a generator comprising an oscillatory air flow generator and a positive air flow generator, the generator providing a positive pressure and an oscillatory pressure;

the oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

the positive air flow generator operably connected with the oscillatory air flow generator;

a frequency-compensation feedback system operably connected with the generator, wherein the frequency-compensation feedback system maintains an oscillation frequency at a predetermined value; and

wherein the generator maintains the positive pressure at a predetermined value irrespective of the repeated inhalation and expiration of the person.

79. The apparatus of claim 78 wherein the generator dynamically adjusts and controls the positive pressure to allow repeated inhalation and expiration of the person.

80. The apparatus of claim 78 further comprising a control panel, the control panel for user-selection of operating parameters.

81. The apparatus of claim 78 wherein the reciprocating diaphragm comprises a seal extending from the outer periphery of the reciprocating diaphragm to a wall of the air chamber.

82. The apparatus of claim 78 wherein the first motor has a shaft mechanically connected to the reciprocating diaphragm;

wherein rotation of the shaft reciprocates the reciprocating diaphragm in a cycle; and

wherein each cycle of the reciprocating diaphragm displaces a fixed volume of air.

83. The apparatus of claim 82 wherein the reciprocating diaphragm causes pressure changes inside the air chamber in comparison to ambient pressure and wherein a majority of the fixed volume of air is moved into and out of a bladder during each cycle.

84. The apparatus of claim 78 wherein the frequency-compensation feedback system maintains an oscillation frequency at a predetermined value between about 5 Hz to about 25 Hz.

85. The apparatus of claim 78 further comprising a vest comprising a bladder, the vest for placement about a torso of the person, the bladder positioned such that expansions and contractions of the bladder occur generally adjacent to the torso of the person.

86. The apparatus of claim 85 further comprising at least one tube operably connecting the bladder to the generator.

87. The apparatus of claim 85 wherein the bladder causes oscillatory compression of the torso of the person.

88. The apparatus of claim 78 wherein mucus from lungs of the person is loosened and expulsion of the mucus is assisted.

89. The apparatus of claim 85 wherein treatment is initiated by placing the vest around the torso of the person and selecting operating parameters on a control panel without further interaction required by the person with the apparatus during treatment.

90. An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

a generator comprising a control panel, an oscillatory air flow generator and a positive air flow generator;

the control panel for user-selection of operating parameters;

the generator providing a positive pressure and an oscillatory pressure, the positive pressure above ambient pressure;

the oscillatory air flow generator comprising;

an air chamber;

a reciprocating diaphragm operably connected with the air chamber, the reciprocating diaphragm comprising a seal extending from the outer periphery of the reciprocating diaphragm to a wall of the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

wherein the first motor has a shaft mechanically connected to the reciprocating diaphragm;

wherein rotation of the shaft reciprocates the reciprocating diaphragm in a cycle;

wherein each cycle of the reciprocating diaphragm displaces a fixed volume of air;

wherein the reciprocating diaphragm causes pressure changes inside the air chamber in comparison to ambient pressure;

wherein a majority of the fixed volume of air is moved into and out of the bladder during each cycle;

the positive air flow generator operably connected with the oscillatory air flow generator;

a frequency-compensation feedback system operably connected with the generator, wherein the frequency-compensation feedback system maintains an oscillation frequency at a predetermined value between about 5 Hz to about 25 Hz;

wherein the generator dynamically adjusts and controls the positive pressure to allow repeated inhalation and expiration of the person;

wherein the generator dynamically adjusts and controls the positive pressure to maintain the positive pressure at a predetermined value irrespective of the repeated inhalation and expiration of the person;

a vest comprising a bladder, the vest for placement around a torso of the person, the bladder positioned such that expansions and contractions of the bladder occur generally adjacent to torso of the person;

at least one tube operably connecting the bladder to the generator;

wherein the bladder causes oscillatory compression of the torso of the person;

wherein mucus from lungs of the person is loosened and expulsion of the mucus is assisted; and

wherein treatment is initiated by placing the vest around the torso of the person and selecting operating parameters on the control panel without further interaction required by the person with the apparatus during treatment.

91. An apparatus for generating oscillatory air pulses in a bladder positioned about a person, comprising:

a generator comprising an oscillatory air flow generator and a positive air flow generator, the generator providing a positive pressure and an oscillatory pressure;

the oscillatory air flow generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

the positive air flow generator operably connected with the oscillatory air flow generator;

wherein the oscillatory pressure has an oscillation frequency, wherein the generator controls the oscillation frequency; and

wherein the generator maintains the positive pressure at a predetermined value irrespective of the repeated inhalation and expiration of the person.

92. The apparatus of claim 91 further comprising a frequency-compensation feedback system operably connected with the generator, wherein the frequency-compensation feedback system maintains the oscillation frequency at the predetermined value.

93. The apparatus of claim 91 wherein the generator maintains the oscillation frequency at a predetermined value.

94. The apparatus of claim 93 wherein the generator detects the oscillation frequency, compares the oscillation frequency to the predetermined value, and adjusts the oscillation frequency to the predetermined value.

95. The apparatus of claim 94 wherein the generator detects the oscillation frequency by detecting the oscillatory pressure.

96. The apparatus of claim 94 wherein the generator detects the oscillation frequency by detecting a motor speed.

97. The apparatus of claim 94 wherein the generator adjusts the oscillation frequency by changing a motor speed.

98. The apparatus of claim 92 wherein the generator maintains the oscillation frequency at a predetermined value irrespective of the repeated inhalation and expiration of the person.

99. The apparatus of claim 91 wherein the first motor maintains a constant speed irrespective of the repeated inhalation and expiration of the person.

100. The apparatus of claim 91 wherein the generator dynamically adjusts and controls the positive pressure to allow repeated inhalation and expiration of the person; and

wherein the generator dynamically adjusts and controls the positive pressure to maintain the positive pressure at a predetermined value irrespective of the repeated inhalation and expiration of the person.

101. A method for generating oscillatory air pulses in a bladder positioned about a person, comprising:

providing a generator comprising:

an air chamber;

a reciprocating diaphragm operably connected with the air chamber; and

a first motor operably connected with the reciprocating diaphragm;

generating an oscillatory air pressure and a positive air pressure with the generator, the oscillatory air pressure having an oscillation frequency;

maintaining the oscillation frequency with the generator to a first predetermined value;

maintaining the positive air pressure with the generator to allow repeated inhalation and expiration of the person; and

maintaining the positive air pressure with the generator to a second predetermined value irrespective of the repeated inhalation and expiration of the person.

102. The method of claim 101 further comprising dynamically adjusting the oscillation frequency with the generator to the first predetermined value.

103. The method of claim 101 further comprising dynamically adjusting the positive air pressure with the generator to allow repeated inhalation and expiration of the person.

104. The method of claim 101 further comprising dynamically adjusting the positive air pressure with the generator to the second predetermined value irrespective of the repeated inhalation and expiration of the person.

105. The method of claim 101 wherein maintaining the oscillation frequency with the generator to the first predetermined value comprises detecting the oscillation frequency and adjusting the oscillation frequency to approximately equal the first predetermined value.

106. The method of claim 105 wherein detecting the oscillation frequency comprises detecting the oscillatory air pressure.

107. The method of claim 101 wherein maintaining the positive air pressure with the generator to the second predetermined value irrespective of the repeated inhalation and expiration of the person comprises detecting the positive air pressure and adjusting the positive air pressure to approximately equal the second predetermined value.

108. The method of claim 101 further comprising selectively adjusting the first predetermined value.

109. The method of claim 101 further comprising selectively adjusting the second predetermined value.

110. The method of claim 101 further comprising selecting operating parameters with a control panel.

111. The method of claim 101 further comprising:

providing the first motor with a shaft mechanically connected to the reciprocating diaphragm;

rotating the shaft;

reciprocating the reciprocating diaphragm in a cycle; and

displacing a fixed volume of air each cycle.

112. The method of claim 111 further comprising:

changing an air pressure inside the air chamber in comparison to ambient pressure, and

moving a majority of the fixed volume of air into and out of the bladder during each cycle.

113. The method of claim 112 wherein the air pressure inside the chamber is changed less than or equal to 1 psi.

114. The method of claim 101 wherein maintaining the oscillation frequency with the generator to a first predetermined value comprises maintaining the oscillation frequency at a predetermined value between about 5 Hz to about 25 Hz.

115. The method of claim 101 further comprising:

providing a vest comprising a bladder, placing the vest around a torso of the person; and

positioning the bladder and the vest such that expansions and contractions of the bladder occur generally adjacent to the torso of the person.

116. The method of claim 115 further comprising causing oscillatory compression of the torso of the person with the bladder.

117. The method of claim 101 further comprising loosening and assisting the expulsion of mucus from a lung of the person.

118. The method of claim 101 further comprising:

placing a vest around a torso of the person; and

selecting operating parameters on a control panel without further interaction required by the person with the generator.

119. The method of claim 101 wherein the generator further comprises an oscillatory air flow generator and a positive air flow generator, the positive air flow generator operably connected with the oscillatory air flow generator.